



$I(J^P) = 0(0^-)$
 I, J, P need confirmation.

Quantum numbers shown are quark-model predictions.

B_c^\pm MASS

VALUE (GeV)	DOCUMENT ID	TECN	COMMENT
6.2745±0.0018 OUR AVERAGE			
[6.277 ± 0.006 GeV OUR 2012 AVERAGE]	Scale factor = 1.6]		
6.2737±0.0013±0.0016	1 AAIJ	12AV LHCb	$p\bar{p}$ at 7 TeV
6.2756±0.0029±0.0025	2 AALTONEN	08M CDF	$p\bar{p}$ at 1.96 TeV
6.300 ± 0.014 ± 0.005	2 ABAZOV	08T D0	$p\bar{p}$ at 1.96 TeV
6.4 ± 0.39 ± 0.13	3 ABE	98M CDF	$p\bar{p}$ at 1.8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •			
6.2857±0.0053±0.0012	2 ABULENCIA	06C CDF	Repl. by AALTONEN 08M
6.32 ± 0.06	4 ACKERSTAFF	980 OPAL	$e^+e^- \rightarrow Z$
1 AAIJ 12AV uses the $B(c)^+ \rightarrow J/\psi\pi^+$ mode and also measures the mass difference $M(B(c)^+) - M(B^+) = 994.6 \pm 1.3 \pm 0.6$ MeV/c ² .			
2 Measured using a fully reconstructed decay mode of $B_c \rightarrow J/\psi\pi$.			
3 ABE 98M observed 20.4 ^{+6.2} _{-5.5} events in the $B_c^+ \rightarrow J/\psi(1s)\ell\nu_\ell$ with a significance of > 4.8 standard deviations. The mass value is estimated from $m(J/\psi(1S)\ell)$.			
4 ACKERSTAFF 980 observed 2 candidate events in the $B_c \rightarrow J/\psi(1S)\pi^+$ channel with an estimated background of 0.63 ± 0.20 events.			

NODE=S091

NODE=S091M

NODE=S091M
NEW

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NODE=S091M;LINKAGE=AN

NODE=S091M;LINKAGE=A

NODE=S091M;LINKAGE=D

NODE=S091T

NODE=S091T

NODE=S091T

NEW;→ UNCHECKED ←

NEW

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NODE=S091215;NODE=S091

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CLUMP=A;NODE=S091

DESIG=1;OUR EVAL;→ UNCHECKED ←
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 DESIG=3;OUR EVAL;→ UNCHECKED ←
 DESIG=4;OUR EVAL;→ UNCHECKED ←
 DESIG=5;OUR EVAL;→ UNCHECKED ←
 DESIG=6;OUR EVAL;→ UNCHECKED ←
 DESIG=7;OUR EVAL;→ UNCHECKED ←
 DESIG=8;OUR EVAL;→ UNCHECKED ←
 DESIG=9;OUR EVAL;→ UNCHECKED ←
 DESIG=10;OUR EVAL;→ UNCHECKED ←

B_c^+ DECAY MODES × $B(\bar{b} \rightarrow B_c)$

B_c^- modes are charge conjugates of the modes below.

Mode	Fraction (Γ_i/Γ)	Confidence level
The following quantities are not pure branching ratios; rather the fraction $\Gamma_i/\Gamma \times B(\bar{b} \rightarrow B_c)$.		
$\Gamma_1 J/\psi(1S)\ell^+\nu_\ell$ anything	$(5.2^{+2.4}_{-2.1}) \times 10^{-5}$	
$\Gamma_2 J/\psi(1S)\pi^+$	seen	
$\Gamma_3 J/\psi(1S)\pi^+\pi^-\pi^-$	seen	
$\Gamma_4 J/\psi(1S)\pi_1(1260)$	$< 1.2 \times 10^{-3}$	90%
$\Gamma_5 D^*(2010)^+\bar{D}^0$	$< 6.2 \times 10^{-3}$	90%
$\Gamma_6 D^+K^{*0}$	$< 0.20 \times 10^{-6}$	90%
$\Gamma_7 D^+\bar{K}^{*0}$	$< 0.16 \times 10^{-6}$	90%
$\Gamma_8 D^+K^{*0}$	$< 0.28 \times 10^{-6}$	90%
$\Gamma_9 D_s^+\bar{K}^{*0}$	$< 0.4 \times 10^{-6}$	90%
$\Gamma_{10} D_s^+\phi$	$< 0.32 \times 10^{-6}$	90%

$\Gamma(D^*(2010)^+ \bar{D}^0) / \Gamma_{\text{total}} \times B(\bar{b} \rightarrow B_c)$	$\Gamma_5 / \Gamma \times B$	
VALUE	$CL\%$	DOCUMENT ID
<6.2 × 10⁻³	90	18 BARATE
		98Q ALEP
18 BARATE 98Q reports $B(Z \rightarrow B_c X) \times B(B_c \rightarrow D^*(2010)^+ \bar{D}^0) < 1.9 \times 10^{-3}$ at 90%CL. We rescale to our PDG 98 values of $B(Z \rightarrow b\bar{b})$.		$e^+ e^- \rightarrow Z$
$\Gamma(D^+ K^{*0}) / \Gamma_{\text{total}} \times B(\bar{b} \rightarrow B_c)$	$\Gamma_6 / \Gamma \times B$	
VALUE (units 10⁻⁶)	$CL\%$	DOCUMENT ID
<0.20	90	19 AAIJ
19 AAIJ 13R reports $[\Gamma(B_c^+ \rightarrow D^+ K^{*0}) / \Gamma_{\text{total}} \times B(\bar{b} \rightarrow B_c)] / [B(\bar{b} \rightarrow B^+)] < 0.5 \times 10^{-6}$ which we multiply by our best value $B(\bar{b} \rightarrow B^+) = 40.2 \times 10^{-2}$.		$p p$ at 7 TeV
$\Gamma(D^+ \bar{K}^{*0}) / \Gamma_{\text{total}} \times B(\bar{b} \rightarrow B_c)$	$\Gamma_7 / \Gamma \times B$	
VALUE (units 10⁻⁶)	$CL\%$	DOCUMENT ID
<0.16	90	20 AAIJ
20 AAIJ 13R reports $[\Gamma(B_c^+ \rightarrow D^+ \bar{K}^{*0}) / \Gamma_{\text{total}} \times B(\bar{b} \rightarrow B_c)] / [B(\bar{b} \rightarrow B^+)] < 0.4 \times 10^{-6}$ which we multiply by our best value $B(\bar{b} \rightarrow B^+) = 40.2 \times 10^{-2}$.		$p p$ at 7 TeV
$\Gamma(D_s^+ K^{*0}) / \Gamma_{\text{total}} \times B(\bar{b} \rightarrow B_c)$	$\Gamma_8 / \Gamma \times B$	
VALUE (units 10⁻⁶)	$CL\%$	DOCUMENT ID
<0.28	90	21 AAIJ
21 AAIJ 13R reports $[\Gamma(B_c^+ \rightarrow D_s^+ K^{*0}) / \Gamma_{\text{total}} \times B(\bar{b} \rightarrow B_c)] / [B(\bar{b} \rightarrow B^+)] < 0.7 \times 10^{-6}$ which we multiply by our best value $B(\bar{b} \rightarrow B^+) = 40.2 \times 10^{-2}$.		$p p$ at 7 TeV
$\Gamma(D_s^+ \bar{K}^{*0}) / \Gamma_{\text{total}} \times B(\bar{b} \rightarrow B_c)$	$\Gamma_9 / \Gamma \times B$	
VALUE (units 10⁻⁶)	$CL\%$	DOCUMENT ID
<0.4	90	22 AAIJ
22 AAIJ 13R reports $[\Gamma(B_c^+ \rightarrow D_s^+ \bar{K}^{*0}) / \Gamma_{\text{total}} \times B(\bar{b} \rightarrow B_c)] / [B(\bar{b} \rightarrow B^+)] < 1.1 \times 10^{-6}$ which we multiply by our best value $B(\bar{b} \rightarrow B^+) = 40.2 \times 10^{-2}$.		$p p$ at 7 TeV
$\Gamma(D_s^+ \phi) / \Gamma_{\text{total}} \times B(\bar{b} \rightarrow B_c)$	$\Gamma_{10} / \Gamma \times B$	
VALUE (units 10⁻⁶)	$CL\%$	DOCUMENT ID
<0.32	90	23 AAIJ
23 AAIJ 13R reports $[\Gamma(B_c^+ \rightarrow D_s^+ \phi) / \Gamma_{\text{total}} \times B(\bar{b} \rightarrow B_c)] / [B(\bar{b} \rightarrow B^+)] < 0.8 \times 10^{-6}$ which we multiply by our best value $B(\bar{b} \rightarrow B^+) = 40.2 \times 10^{-2}$.		$p p$ at 7 TeV

B_c^\pm REFERENCES

AAIJ	13R	JHEP 1302 043	R. Aaij <i>et al.</i>	(LHCb Collab.)
AALTONEN	13	PR D87 011101	T. Aaltonen <i>et al.</i>	(CDF Collab.)
AAIJ	12AV	PRL 109 232001	R. Aaij <i>et al.</i>	(LHCb Collab.)
AAIJ	12Y	PRL 108 251802	R. Aaij <i>et al.</i>	(LHCb Collab.)
ABAZOV	09H	PRL 102 092001	V.M. Abazov <i>et al.</i>	(D0 Collab.)
AALTONEN	08M	PRL 100 182002	T. Aaltonen <i>et al.</i>	(CDF Collab.)
ABAZOV	08T	PRL 101 012001	V.M. Abazov <i>et al.</i>	(D0 Collab.)
ABULENCIA	06C	PRL 96 082002	A. Abulencia <i>et al.</i>	(CDF Collab.)
ABULENCIA	06O	PRL 97 012002	A. Abulencia <i>et al.</i>	(CDF Collab.)
ABE	98M	PRL 81 2432	F. Abe <i>et al.</i>	(CDF Collab.)
Also		PR D58 112004	F. Abe <i>et al.</i>	(CDF Collab.)
ACKERSTAFF	98O	PL B420 157	K. Ackerstaff <i>et al.</i>	(OPAL Collab.)
BARATE	98Q	EPJ C4 387	R. Barate <i>et al.</i>	(ALEPH Collab.)
PDG	98	EPJ C3 1	C. Caso <i>et al.</i>	
ABREU	97E	PL B398 207	P. Abreu <i>et al.</i>	(DELPHI Collab.)
BARATE	97H	PL B402 213	R. Barate <i>et al.</i>	(ALEPH Collab.)
ABE	96R	PRL 77 5176	F. Abe <i>et al.</i>	(CDF Collab.)
PDG	96	PR D54 1	R. M. Barnett <i>et al.</i>	

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